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ABSTRACT

Photographs, unlike paintings or drawings, capture rather than interpret a moment in time and experience. The techniques for decoding the meaning in still photographs is photoanalysis. Photoanalysis is not a critique of the technical quality of a photograph, but rather an analysis of its content and intent. The rules of scientific method including inductive and deductive reasoning, inference, drawing conclusions, and limits of generalizability all apply to photoanalysis. Still photography is an important medium for scientific inquiry due to its ability to capture minute bits of behavior, its widespread availability and subsequent large database, and its technological advances. The first step in photoanalysis consists of setting the level of behavior portrayed in the image, which could be individual-psychological, interpersonal, cultural, or physical artifacts. At the psychological level, inferences are made about an individual's personality and inner feelings. At the interpersonal level, photoanalysis concentrates on the nature of the relationship being portrayed. The cultural level focuses on abstract patterns (norms, values, beliefs) practiced by members of a society. Similarly, physical artifacts can provide evidence of cultural patterns. Further considerations in photoanalysis include the photographer's and the subject's intent and the context of the making of the photograph. Photoanalysis can be used to illustrate an idea, discover a new idea, or as a scientific research procedure. (BL)

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PHOTOANALYSIS:
A TOOL FOR SOCIAL SCIENTISTS

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PHOTOANALYSIS: A Tool for Social Scientists

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Still photographs are visual language. Unlike life, which is process, a photograph freezes time and holds experience captive for our leisurely examination and analysis. Written accounts of behavior, or handmade visual statements such as paintings or drawings, are interpretations. We classify these interpretations with labels such as impressionism in art and literature to better understand how they have been made. Photographed images, as Susan Sontag points out, are not so much statements about the world as pieces of it (1977: 4). With some qualification, we can treat the visual language projected by a photograph as direct communication, even while subject to the ambiguities and uncertainties involved in all transmissions of messages. The technique for decoding the meanings in still photographs is called photoanalysis.[1] The following discussion will be a general introduction to photoanalysis, with comments on the need for a systematic approach and examples for its use in research and in the classroom.

Paper presented at the annual conference of the Eastern Community College Social Science Association at Williamsburg, Virginia, March, 1983

Photoanalysis is not concerned with the aesthetics of photography, nor except for practical purposes of clarifying photographic content and intent, with such technical considerations as composition, lighting or exposure time. An amateurish, technically incompetent photograph is as eligible for analysis as a portrait by Stieglitz. The rules which govern photoanalysis are those generally accepted by scientists for weighing empirical evidence. The skills which can be applied to and learned through photoanalysis include the use of inductive and deductive reasoning, recognition of valid and invalid inference, drawing acceptable conclusions from available information, the limits of generalization, and all the procedures of the scientific method.

Why still photographs rather than the written word or moving pictures? First, the human face is capable of about 250,000 different expressions, many of them extremely subtle. If two people were enclosed in a box and every aspect of their behavior recorded down to microscopic levels, as many as 5,000 bits of information could be recorded every second (Birdwhistell, 1970). Admittedly, still photography as it is normally practiced cannot record, say, with a 1/100th second exposure time, 500 bits of behavior for later analysis. Moreover, much actual behavior is meaningful only through connections between preceding and succeeding acts so still photography may "freeze out" otherwise observable patterns. The more usual outcome of one, or a series of stills, however, is not to eliminate process but to render it sensible. A famous set

of stills shot in the 1880's, for example, settled a long-standing debate: there is an instant during which a running horse removes all four hooves from the ground simultaneously (Muybridge, 1887: np).

Second, we work in a society in which photography has democratized the recording of experience. The elite have art collections, home libraries may extend down through the upper middle classes, but almost everyone has the wherewithal to photographically record family rituals and personal accomplishments. An estimated 6 billion photographs not exist in the United States alone (Musello, 1980). No comparable data base of recorded behavior exists anywhere.

Third, camera technology has matured over the past century and a quarter to where behavioral photographic records can now range from the fertilization of ovum by sperm to space photography pointing out the location of past civilizations by identifying ancient river beds long covered by Sahara Desert sands. Subject matter for photoanalysis is limited only by one's imagination and knowledge of techniques for uncovering the hidden meaning in photographs.

Photographs yield their messages most clearly and completely if a systematic approach is used. What follows consists of a scheme for classifying levels of behavioral display in photographs as an initial step for analysis. The process involves (1) making explicit the level of behavior observed in the photograph, (2) making inferences about a general

principle of behavior, and (3) testing the limits of the general principle. The procedures involved in making the inferences, the consideration of further information such as intent of photographer and subject, and the modification of the original conclusion, testing the limits of the conclusion's generalizability; these are the basic work of photoanalysis.

The Content of Photoanalysis

The first step in photoanalysis consists in fixing the level of behavior portrayed in the image, which may or may not be the final level of interest. The levels are (1) the individual-psychological; (2) the relationship or interpersonal; (3) the cultural; and (4) physical artifacts.

At the psychological level photographic inference is used to make statements about an individual's personality makeup, or the existence of an inner feeling or thought. A picture showing former President Jimmy Carter being hugged by the late Anwar Sadat upon the latter's departure from Camp David clearly shows Mr. Carter's tight-lipped discomfort (The Washington Post, July 21, 1978). Whether we limit our interpretation to a comment about Mr. Carter's personality, or extend it to the relationship between the two men, or to general cultural differences between the United States and the Middle East, our beginning focus must be at the psychological level. We first ask, What produces this psychological discomfort?, and then proceed with our analysis.

The second level concentrates upon the nature of the relationship or relationships being portrayed. A common assumption made by social psychologists is that first-born children, dethroned from their special position by second children, develop high anxiety and greater affiliation needs. My students have tested this hypothesis by screening family albums to see if first children are more often photographed in closer physical proximity or show more clinging behavior than later borns.[2] Again, while the nature of the photographic evidence is interpersonal (relations between parent and child or between siblings), our intent may be to draw conclusions about psychological states such as anxiety or affiliation. The clarity of our conclusions will be enhanced by knowing that we are moving from one level (observed) to another (inferred). The movement should consciously (1) force us to specify the factors which compel us to move beyond the observed and (2) lead us to consider alternative inferences for observed levels of behavior in photographs.

The cultural level consists of abstract patterns (norms, values, beliefs, symbols) practiced either consciously or unconsciously by members of a society. In Gender Advertisements (1976), Goffman displays pictures of disembodied male and female hands to make the point that women are portrayed as less active, direct and assertive compared to men. This suggests a set of cultural practices commonly called sex roles. Other examples include pictures where men outnumber women, are in dominant physical positions, or more central, active

roles. As with the other two levels, distinctions between observed and inferred levels should be explicit. Ekman et al (1972) contend that facial expressions conveying such basic emotions as anger, fear, sadness, puzzlement and disgust are cultural universals. A full test of this hypothesis (which incidentally, would be practically impossible without photo-analysis) would have observed photographic evidence at the psychological level and inferences at the cultural and cross-cultural levels.

Social scientists are directly interested in the behavioral patterns of people, but physical artifacts in photographs may provide insight into behavior through the same strategy of inference we have been employing. In the Hidden Dimension (1966: 102), Edward Hall interprets a photograph of closely-packed chairs and tables in a French cafe to illustrate a French tendency to pack together more closely than Americans. Thus from physical evidence a cultural pattern is inferred. To illustrate reasoning from the physical environment to psychological properties, murder mystery magazines rountinely show the private rooms of alleged or real criminals, suggesting that their bizarre contents are keys to understanding the person's psychology. Content analysis has shown interesting cultural differences between photographs taken in China and in the United States. The Chinese are interested in the ideal, Westerners are more interested in the "typical" Thus, Chinese photography shows the most successful, the best of everything, while our empiricist

tradition shows up in our concentration in photography on the average, or usual (Cranz, 1979).

The use of photoanalysis for historical interpretation is a special case of the cultural level. Strictly considered, all photographs are historical documents as soon as they are pulled from the developer, but photoanalysis has been used to reinterpret entire historical epochs. Michael Lesy (1973), using the remains of a small-town newspaper's glass plates, analyzed photographic themes which suggest that, contrary to the gay 90's stereotype, the United States was undergoing a psychological as well as an economic depression between 1890 and 1900.

Further Considerations

The paper began by comparing photography favorably to art and literature as a more direct communication, 'with some qualifications.' Those qualifications are actually very important and constitute critical elements in the movement from observed behavior to inferred general conclusions. The considerations conclude the intent of the photographer, the intent of the subject, and what has been called the "sociovidistic framework."

If photography consisted merely of a mechanical action to record reality, its consideration as an art form would never have arisen. A photographer imposes standards on the product through selection of lighting, angle, depth-of-field

and background selection, and choice of the moment for shooting. The photographer's intent may be to embarass, identify, flatter or to distort and misrepresent. Photographs can deceive, as when one head is superimposed on another's body. Knowledge of the photographer's intent is always desirable, but even in cases of gross misrepresentation valuable insight can occur. A sample of photographs analyzed by Michael Lesy in Real Life: Louisville in the Twenties, was from a commercial studio which specialized in "touching up" industrial scenes. Lesy places two photos side-by-side, an original and the finished product, and concludes that the "real life" is what is missing from the latter.

The subject's intent may coincide with the photographer's, differ from it, or when the subject is unaware that a photograph is being made, may not be a factor at all. Akeret (1973) reproduced an interesting disparity between photographer and subject intent. The photograph shows eight military POW's during the Korean War. Several of the men are definitely and defiantly extending the middle finger of one or both hands. The photograph was released to the West because this particular cultural cue was unknown by their captors and photographers.

Finally, the context of the making of the photograph is important in analysis. The activities--planning, shooting, processing, editing and exhibiting--combine with participants, settings, topics and message form to produce what Musello calls the "sociovidistic framework" (1980:24). He has used this framework profitably to explain the "home mode," the

production of family photographs as an event.

The Uses of Photoanalysis

In illustrating the need to focus upon levels of behavioral representation in photographs, many of the uses of photoanalysis emerged. Specifically, uses include (1) illustration of an idea; (2) discovery of new ideas or showing the fallacy of an existing belief; (3) functioning as a scientific research procedure. The latter use incorporates forming a hypothesis, operationalizing variables, sample selection, measurement or content analysis of photographs, and drawing conclusions which are properly qualified.

Textbook pictures are invariably illustrations of messages contained in the text and generally reinforced by captions under the photograph. "Analysis" consists of scanning the photograph for visual confirmation of the verbal message. Occasionally, this use may reach a deeper level. Gordon Allport's Letters from Jenny interprets a woman's psychology as being importantly understood only if one accepts an unconscious but incestuous interest in her grown son. This thesis would prove hard to accept for many but for an unobtrusive accompanying photograph showing the woman and her son in a pose usually struck only by lovers. Despite such occasional illuminations, however, illustration makes little use of the photoanalytic imagination.[3]

Furthermore, we are so accustomed to having photographs captioned to channel our perceptions that their potential for

discovery has been blunted. Discovery may be a personal realization of knowledge which has previously existed but not been known by the photoanalyzer, or may yield a new contribution to knowledge. The aforementioned example of photographs from space which led to discovery of new locations of ancient civilizations was a happy, but rare, piece of serendipitous photoanalysis. I assume that this situation derives from the narrow and limited extent of photoanalytic research, rather than anything inherent in photographs as visual language. Photographs should yield patterns as easily and as meaningfully as those in statistics as we become more sophisticated in procedure.

A nonscientist's conception of the term proof is likely to include demands for a final, infallible truth, an idea which is alien to the scientist's thinking. Photographs can be used as proof of the usefulness (or uselessness) of a hypothesis just as answers to attitude questionnaires are used. The following example suggests several considerations in using photographs as proof.

I once analyzed questionnaire responses from high school students which contained a Parental Interest Index. Later-born students perceived that their parents evinced less interest in them than in their first-born siblings, a difference which was statistically significant (Green, 1979). What I really wanted to know, however, was whether this difference was real, and just biased perception.

Several of my marriage and family students have provided family photo albums for a more direct test of the hypothesis. Simply put, we have checked to see whether first-borns appear in the family album more frequently than later-borns over the same age range. Every replication has shown support for first-born overrepresentation. This exercise contains the following elements:

1. Forming a hypothesis. Parents show more interest in first-borns than in later-born children.

2. Operationalizing variables. Appearance in a family photo album is indicative of parental interest. Each appearance equals one show of interest. Birth order is group into two categories, first-and later-born. Only photographs before age ___ (age of youngest) are to be counted for the subjects.

3. Sample selection. Family albums are considered a population with all units being considered. (Sample selection is often relevant in photoanalysis. For Wisconsin Death Trip (1973), Lesy selected fewer than 100 from 30,000 glass plates, but the selection was not random. If random samples are selected, say by choosing every fifth issue of a magazine, or every 1,000th photo from the archives of a newspaper, inferential statistics can be computed on the results.)

4. Measurement. Every inclusion in a photograph, either individual or group, counts one. Inclusions are to be totaled. Descriptive statistics may be computed to present results.

5. Conclusions. Each family album analysis yields one test of the parental interest hypothesis. Conclusions are

limited to the family relationships in each particular family's album. Even though no exceptions have been found in about 8 or 10 albums, the limits of this phenomenon are unknown. For example, no albums from non-U.S. families have been analyzed, and none where the youngest child was born earlier than the 1950's. The conclusions can also be qualified further: when the first-borns are female, the tendency toward greater parental interest is not as marked and the youngest child, rather than the middle children, rivals the first-born for photographic appearances.

Much in the research example will seem familar to any social scientist. The major problem with photoanalysis is not learning the content of a new skill, but in changing perspective and attitudes toward familiar material. Social scientists who employ painstaking care in the analysis of a table, graph or computer printout often view photographs with all the care taken in watching situation comedies on television. This paper contains but a few examples of photoanalytic work, some highly imaginative and others quite pedestrian. Hopefully the examples show that the promise of photoanalysis is well worth the effort required for a visual reorientation.

NOTES

1. The term was apparently invented by Robert W. Akeret, a psychotherapist who analyzed his clients' photographs to help understand unconscious personality motivations. See Akeret (1973).

2. For details, see Personal Relationships (1978: 314).

3. Many researchers formerly believed that photographic use should be restricted to illustration. Worth (1980:17), writing on the anthropology of visual communication in general, and specifically about the contributions of Bateson and Mead in Bali, contends "The reason their photographs and films are records is that they were taken in ways which allowed them to be analyzed so as to illustrate patterns observed by scientists who know what they were looking for." He then moves to a second level of analysis--photographs as parts of culture in their own right--and makes a statement which could easily summarize the theme of the present paper: "I am arguing that there is great value in visually recorded data about behavior and culture--so long as we know what it is that we recorded, so long as we are aware of how and by what rules we chose our subject matter, and so long as we are aware of and make explicit how we organized the various units of film from which we will do our analysis." (pp. 18-19).

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